



## Dear Clients & Friends...

Most of you have probably never thought of your family veterinarian as instrumental in our country's system of disease surveillance and monitoring but it's one of our responsibilities in daily practice. We are the front line in detection of exotic animal diseases imported into the US from other countries, as well as being responsible for preventing contagious diseases from spreading via health certificate inspections.

For dogs and cats in the midwest, Rabies is our primary concern but a surprising number of deadly foreign diseases can also spread via dogs and cats. It's our job to notice unusual symptoms in our patients, especially in any pet entering the US from another country, and report them for investigation by state and national veterinarians and scientists. Another scenario would be

a person bringing a contagious disease into the country or into Wisconsin, either on their person or in a food product, and then spreading it to a pet.

Veterinarians like me all across the country and around the world are working to contain and eradicate diseases most people have never heard of!



Most of you probably don't remember this, but about ten years ago a Milwaukee-area veterinarian

detected monkey pox in a cage pet imported from Africa. His quick thinking and notification of state authorities prevented an outbreak of this disease, which affects many other species besides monkeys.

Another situation close to home is a recent outbreak of a rare disease of ferrets that started in a breeding facility in Illinois and is

showing up in our state in ferrets that came from that facility. This disease, too, affects other species as well as ferrets.

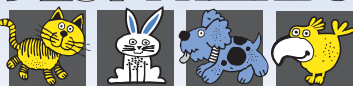
A third example is puppies carrying Rabies that are being illegally transported into the US from Mexico, unbeknownst to their new owners. Texas veterinarians then have to deal with Rabies diagnosis and quarantine to prevent spread of this deadly disease from those puppies.

Every three years I am required to complete 9 units of on-line continuing education to maintain my APHIS accreditation. APHIS, the Animal and Plant Health Inspection Service, is part of the USDA. The Veterinary Services branch of APHIS is responsible for protected agricultural animals, animal products, veterinary biologics (primarily vaccines) and dealing with animal health problems at the state, regional and national levels. It coordinates with other agencies to handle import and export of animals, disease outbreaks, such as avian influenza, and to prevent, minimize or eradicate animal diseases of economic concern.

It's a bit frightening knowing how many dangerous diseases are out there, lurking. Ebola, Zika virus and influenza are three that have been in the news in the past few years but there are many more exotic diseases that could make their way here. Some of them come from parts of the world that seem prone to nasty viruses, such as Africa and Southeast Asia. Many, however, could come into the U.S. from countries we don't typically think of as being problematic, such as Australia and the United Kingdom. In turn, those countries worry about importing diseases from us, such as Rabies. Many countries in the world are Rabies-free and want to remain that way.

One of the training modules I completed recently covered ten diseases to be aware of. You will probably not have heard of any of them. They have strange names such as heartwater, louping-ill, Hendra virus, Nipah virus and glanders. Hopefully, you won't ever be reading about humans or domestic animals dying of any of them any time soon. If not, it will be because thousands of veterinarians across the country and around the world are working hard to contain and eradicate them. It's an amazing and complex system that operates quietly under the radar, keeping you and your pets safe.

Nan Boss, DVM



# THE FACTS ABOUT GROWLING

## TRUE OR FALSE:

If a dog growls aggressively, you should show him who is boss and punish him.

**FALSE:** Punishing a dog for showing aggression, including growling, can have many negative effects on your dog-and your relationship with your pet.

It can be frustrating and embarrassing when your dog growls, whether he's reacting to a visitor at your house, a passerby on the street, a groomer or a trip to the vet. Your gut reaction might be to raise your voice, jerk on the dog's collar or manhandle him into a controlled position. Here's why that's a bad idea.

## Why you shouldn't punish

Force and fear-based tactics are dangerous both for you and your dog, because they can worsen your dog's behavioral problems and increase aggression and fear-based behavior. While punishment may temporarily inhibit the aggressive

response, over time punishment often intensifies a dog's reaction and escalates his aggression or anxiety. Punishment also damages your relationship of trust with your dog, as your interactions become less predictable from the dog's point of view. When you use force-based techniques, you increase the risk your dog will show aggression and bite, even if he growls less often.

## Why do dogs growl?

Growling can also indicate your dog is playing. Use context and other body language signs to determine the meaning of the growl.

Growling is a communication signal, the goal of which is to get the receiver of the growl to withdraw or to stop an interaction. The dog is growling because he or she feels threatened or defensive.

Growling most commonly occurs when a dog is approached by unfamiliar people or dogs, during handling and procedures (e.g. nail trimming), when the dog is verbally

or physically reprimanded, or when someone tries to take away a valuable possession, such as a bone.

Growling can also occur in the context of playing. If the dog is play bowing, grinning with the mouth open and has a relaxed body posture the growl is not aggressive. Some dogs growl when seeking attention or play

## Signs of your pet's emotional state

Many forms of aggression are rooted in fear. When you punish your dog for aggressive displays, the punishment doesn't change the dog's emotional state to a positive one. It simply suppresses your dog's way of releasing his anxiety. In other words, punishment serves to temporarily mask the symptoms of the underlying issue, such as fear of a stranger. In many cases the aggression intensifies with punishment. Punishment may actually worsen your dog's fear and tension because your dog anticipates that you may be upset and he may be punished. He then associates even more negative emotion with the person or thing he is growling at.

Barking, growling, avoidance and observable behaviors are designed to communicate a message. If the message gets the desired outcome and it is understood, then the animal has been able to express himself. Research suggests this **REDUCES** anxiety and stress.

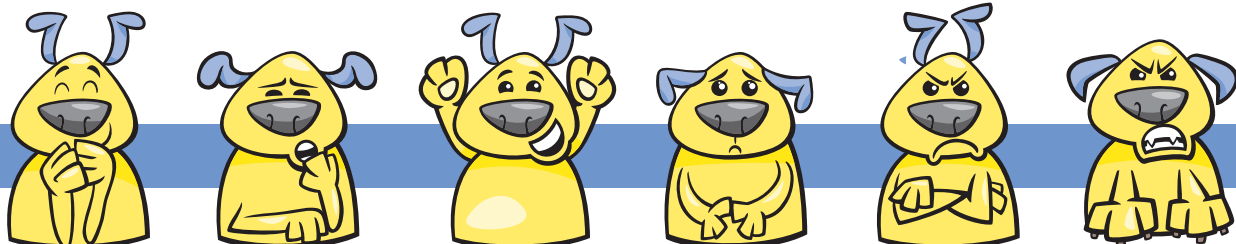
Punishment of the growling behavior hinders your dog's ability to communicate how he's feeling and decreases his warning signals before a bite. Dogs that have been punished for growling or other aggressive warning signals may progress faster into a bite, and they may display fewer warning signs. We want your dog to growl so we can tell we are approaching his limit and he's losing his cool.

Depending on the situation, you may notice other signs of stress before your dog's fear escalates to growling. Turning the head away, licking the lips, pinning the ears back, covering and freezing are other behaviors that can clue you in that your dog is frightened. In a perfect world, you would notice these signs first and if the situation isn't dialed back they would be followed by growling before snarling, snapping or biting.

An "air snap," where the dog deliberately snaps at the air in front of a target, is a commonly used signal to tell another dog to back off. If the stranger dog or unfamiliar human does back away, a normal response to that would be a de-escalation of aggression. Otherwise, the next step may be an actual bite.

## Growling - the bark before the bite?

In many cases, a dog that seemingly "bites out of nowhere" has a history of having been punished for aggressive warnings, like growling. Even dogs said to bite without warning show subtle



signs before escalating, such as freezing in place or the whites of their eyes showing, but the signs are often less noticeable and harder to read.

Though dogs speak in many ways through body language and other vocalizations, a growl is one way dogs communicate the loudest about their discomfort. We should listen, not punish! If a growl occurs during punishment or correction it's a sign that you are being too heavy-handed. Persisting in punishment in these situations can result in severe bite injuries. This is a serious risk and a major reason why we recommend positive reward training, not punishment!

When a dog communicates how he feels, such as growling at another person or dog, this is like the check engine light in a car that communicates all isn't right. It's much better for you - and for your dog - when you respect a growl as a warning and address it humanely.

An important point: When the dog growls, it is rarely a good

time to "fix" the dog and resolve the situation. First, there's a high risk for a bite from the dog's over-aroused emotional state. Second, your dog may not be prepared to learn a better response or association with the situation in the moment. He's already upset. Instead, try pausing to stop the aversive scenario, or remove the dog from the situation. Then you can devise a plan to address your dog's response in a helpful manner. In some cases, you can interrupt the negative behavior by redirecting the dog to do another behavior, like going to their bed, that you can reward.

Your dog may also benefit from a training plan to help in becoming more comfortable with the situation, such as training him to tolerate or even enjoy handling from less familiar people. We may recommend a veterinary behaviorist or a positive

When the dog growls, it is rarely a good time to "fix" the dog. Instead, remove the dog from the situation.

reinforcement trainer to help. To avoid injury to people during nail trims and other procedures, a muzzle may be needed.

Antianxiety medication may be recommended for visits to the veterinarian or groomer or before other frightening events such as the arrival of guests in the home. If these occasions provoke fear for your dog the kind thing is to relieve your dog's stress and fear. Giving treats during procedures can also make a big difference.

In summary, growling and other aggressive displays are merely a symptom of a deeper underlying issue, such as fear. By addressing the issue in full and changing a dog's emotion of fear into happy anticipation in the same scenario, the growl and other aggressive displays fade on their own.



# PRE-ANESTHETIC TESTING SAVES LIVES!



Every once in a while we have a case that proves to us how important pre-anesthetic screening is. This pretty kitty is Star. She belongs to a Best Friends team member. Star has a tooth with a resorptive lesion that we wanted to extract, so she came in with her owner on a Monday for dental

work. Luckily, Michelle elected to have a pre-anesthetic ECG screen done before anesthesia. The ECG showed an abnormal heart rhythm that makes anesthesia extremely dangerous. We canceled her procedure, which probably saved her life.

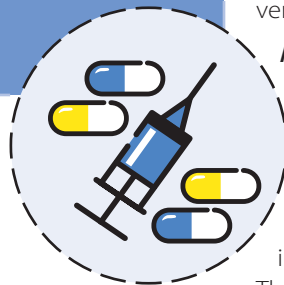
The abnormality Star has is called AV block. The electrical signal that tells the heart to beat is not making it from the pacemaker node to the heart muscle so her heart isn't beating at a normal rate. She has no symptoms of fainting or tiring at this point. If symptoms develop, she will need a pacemaker implanted.

We bet you didn't know that used human pacemakers are resterilized and refurbished for use in dogs and cats! If she needs one she will go to the veterinary school in Madison to have it implanted. Hopefully that won't be necessary. Unfortunately, anesthesia is out of the question until/unless Star gets a pacemaker. She will have to be on long term pain medication for her bad tooth since it isn't safe for us to extract it under anesthesia.

## Adjunctive Pain Medications

Wouldn't it be nice if a single, amazing medication would control any and all pain we or our pets could experience? We all would like pain to be something easily corrected. Unfortunately, it's not, with chronic forms of pain such as from severe arthritis or cancer being especially difficult to overcome. Further, what works well for one patient may not work as well for another. Most patients, human or animal, do best when several medications are combined. This means it may take weeks or even a few months to nail down the combination that works best for your individual pet.

The most common pain medications we reach for when treating chronic pain are NSAIDs, gabapentin, amantadine and supplements such as fish oil. There are many drugs and supplements that are



used less commonly for severe or chronic pain. When we are frustrated and not controlling pain well enough with our regular cocktails of drugs we will start adding in some of these.

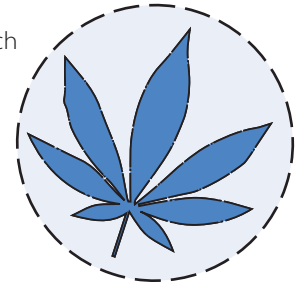
Many of these medications were used first for other purposes but have been found to decrease pain as well. Some are used for specific types of pain, e.g. osteoarthritis, neck and back pain or cancer pain. Several are used in humans as antidepressants. Medications that affect brain chemicals can work for both depression and pain. The following is a not-so-brief list of some of the things we are beginning to use more of.

**Probiotics:** Keeping the gut balanced and healthy with probiotic bacteria improves immune system function and helps to relieve chronic pain as well.

**Antidepressants:** Tricyclic antidepressants (TCAs) such as amitriptyline as well as serotonin-norepinephrine reuptake inhibitors such as Cymbalta™ and Effexor™ can be effective as pain medications. Generics are available, which makes the price pretty reasonable to try. They are especially useful for treating cancer pain

**Apoquel:** This is our primary anti-itch drug used for allergies in dogs. The Janus-kinase receptors it targets are involved in pain sensation as well as itch.

**Cannabinoids:** Marijuana derivatives such as CBD can work well for many types of pain. Right now, they are completely illegal in Wisconsin but that may change in the next few years. Many products are available on-line.



**Cerenia™ (mirtazapine):** This is our primary anti-nausea drug and it also reduces abdominal pain with efficacy similar to morphine.

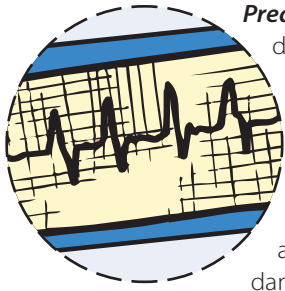
**Doxycycline/minocycline:** These drugs are antibiotics that also have anti-inflammatory effects, especially inside joints and muscle tissue. They can also be quite helpful for osteosarcoma (bone cancer).

**Melatonin:** Melatonin is a hormone produced in the brain that regulates sleep/wake and seasonal cycles. It is used for jet lag in humans, for disruption of hair growth in dogs and ferrets, as well as for anxiety and pain relief. It is especially helpful for cancer pain. It is very inexpensive.

**Mexiletine:** This is a drug primarily used for certain types of heart disease. It's like an oral version of lidocaine, which is a sodium channel blocker. Sodium channels are important in conducting signals between cells – pain signals as well as electrical signals in the heart muscle.

**NV-01 (for dogs) & NV-02 (for cats):** These drugs are currently in development and are expected to come out in 2018 or 2019. They are antibodies that bind with a chemical messenger called nerve growth factor or NGF, which is important in osteoarthritis. They will be available in the form of a monthly injection. So far, no side effects at all have been reported, so they sound very promising.

**Piroxicam:** Piroxicam is an older NSAID drug that works particularly well for bone cancer and bladder cancer. It does not have the high safety profile of newer NSAIDs, so it has higher risk of causing gastric ulcers. If your dog is taking piroxicam we may need to stop giving it for a time periodically, just to give the stomach lining a break to repair itself.



**Prednisone/prednisolone:** These steroid drugs can reduce pain and inflammation from many different types of cancer.

**PEMF:** Pulsed electromagnetic fields therapy is safe and effective in improving arthritis pain. It is also used to speed bone healing after fracture repair and to induce faster healing after nerve damage. It works by stimulating calcium (Ca)

to transform into a molecule called calmodulin (CaM). This transformation is a voltage-dependent process, which is why an electromagnetic field can stimulate it. CaM then triggers a natural anti-inflammatory cascade within cells. You would rent our Assisi loop device, which your dog would wear for 15 minutes or more per joint per day for a month at a time. The loop is used for the stifle (knee), where it wraps around the leg. Velcro wrap vests hold the device in place for use on shoulder or hip joints.

**Pamidronate™ (bisphosphonate):** For bone cancer pain, bisphosphonates are our best tool to use in addition to oral pain medication. These are drugs that were developed for treating osteoporosis in humans. They provide long-lasting bone pain relief. They stimulate fracture healing, too, so even a broken bone cancer-affected leg will heal with treatment. Bisphosphonate is administered intravenously here in the hospital once a month or so.

**Intra-articular injections:** It is very common to inject steroids in the joints of humans with arthritis. We also can do this with dogs. We usually use a combination of triamcinolone (the steroid part) and hyaluronic acid (which is a component of joint fluid and cartilage). Steroid injections degrade cartilage so they are rarely used unless the cartilage is already eroded away. The hyaluronic acid helps to counteract the degradation of cartilage from the steroid injection.

Another product you may be surprised to hear can be injected into a painful joint is Botulinum toxin, or Botox™. Botulinum toxin injections into the joints have shown a long-lasting benefit in human end-stage osteoarthritis patients.



Consistent pain reductions and improvements in function have been sustained for 6 to 12 months or more after injection and we can repeat the treatment again as the effects wear off. A single (expensive) vial of Botox will treat two joints.

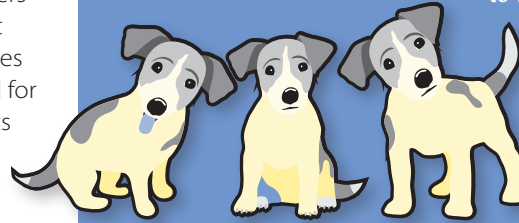
**Stem cell therapy:** Stem cells can be harvested from fat and then injected back into the dog, either into the affected joints themselves or into the bloodstream, where they tend to target damaged tissue and end up back in the joints that way. The idea is that the stem cells will transform into cartilage-producing cells that will rebuild the inside of the joint.

Two anesthetic procedures are needed for a stem cell transplant, one to harvest the fat and the second to inject it into the joints. Fat can be harvested and banked for later, so we could acquire fat tissue during a spay, neuter or other routine procedure and save it until it's needed. Injections can be repeated later (usually 1-2 years later) using the same stem cell bank created previously. Stem cell therapy is very expensive to do and there is not enough research yet to prove it works. We would consider it a salvage procedure when nothing else has worked.

## Tidbits...

Nationwide, the number of pets receiving heartworm disease preventive medication has been dropping, and it was never that great to begin with. In the Midwest, only 38% of all dogs are being protected. Along with coyotes and foxes, all these unprotected pets create a huge reservoir of disease. Heartworm is common, often fatal and completely preventable. Please make sure your dog is protected – and your cat, too!

A recent ranking of “most stubborn breeds” of dog, from least to most stubborn: 10) Beagle;



9) Borzoi; 8) Welsh terrier; 7) Dachshund; 6) Pekingese; 5) Bloodhound; 4) Bulldog; 3) Basenji; 2) Chow; 1) Afghan.

70% of PetFinder.com

cases are pets who “don’t go outdoors.” For safety’s sake, all pets should be microchipped.

70% of dog bite victims are children. 84% of those are children less than twelve years of age. When a child is bitten, the biting dog’s owner was present 62% of the time and a parent was present 43% of the time. This implies that the mantra “Do not leave children alone or unsupervised with a dog” is not sufficient to prevent bite injuries. Dogs should be assessed for likelihood of aggression and not be allowed to interact with kids if it may be unsafe. Kids should be taught how to approach strange dogs and the dog owner’s permission should always be obtained first. Dogs approached on their territory or tied out on a rope or chain are more likely to be aggressive.

• Ferrets like the taste of ear wax. A common cause of intestinal obstruction is eating an ear plug or ear bud. Keep these items put away!

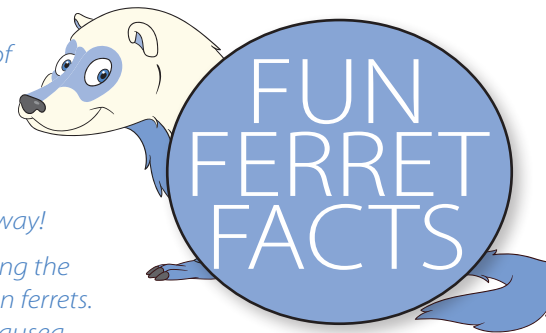
• Squinting and grinding the teeth are signs of pain in ferrets. Lip licking is a sign of nausea.

• Grain-free diets are popular right now. Two manufacturers of ferret diets make grain-free diets, which contain peas instead of grain. Unfortunately, peas cause bladder stones in ferrets. Grain-free diets are not healthier than foods with grain anyway, there is no reason to feed them, especially to a ferret.

• Allergic reaction to vaccines is common in ferrets and can be fatal. Diphenhydramine may be given prior to vaccination. If a reaction occurs that vaccine should not be administered again.

• Ferrets are susceptible to heartworm disease and should be given monthly preventive medication.

• They can also contract human cold viruses, unlike cats and dogs.



# BUSTING MYTHS ABOUT CORN AND GRAIN IN PET FOOD

One of the common questions that many veterinarians are asked has to do with pet food choices; clients want to know what's best for their pet. The topic of grains—and corn, in particular—as an ingredient in animal food often comes up. There is a great deal of conversation and many viewpoints about the use of grains in pet food. In this article, we take a look into the role of grain in pet foods, attempt to dispel some of the myths, and provide expert recommendations.

Jennifer Larsen, DVM, PhD, DACVN, is an associate professor of clinical nutrition at the Veterinary Medical Teaching Hospital (VMTH) at the University of California, Davis. She also does clinical nutritional consulting through the VMTH Nutrition Support Service. She says, "Grains, and any other single category or individual ingredients, are neither good nor bad.

"Rather, what is important is how the ingredients work together to create the full nutritional profile of the diet. No ingredient has a simple effect since each provides multiple nutrients, and it's not consumed in a vacuum."

## Myth #1: Dogs and cats did not evolve eating grains and therefore cannot digest grains.

Rebecca Remillard, PhD, DVM, DACVN, is the founder and president of Veterinary Nutritional Consultations, Inc. She has more than 20 years of experience as a clinical nutritionist. "In fact," she says, "modern dogs have adapted/evolved to eating a high starch diet during their domestication." Three genes responsible for the digestion of dietary starch are expressed 7–12 fold higher levels in the dog compared with the wolf.

Remillard goes on to say, "Whether they ate grains or not is a moot point, because they can clearly digest starch very well. Well done digestibility studies have clearly demonstrated that both dogs and cats digest better than 95 percent of the starch in a properly cooked diet containing

50 percent corn or rice."

## Myth #2: Grains are allergenic.

Martha G. Cline, DVM, DACVN, is a clinical veterinary nutritionist at AAHA-accredited Red Bank Veterinary Hospital in Tinton Fall, N.J. She says, "At this time, there is no evidence to support

that animals on grain-free diets have less incidence of food allergies than animals on conventional diets." There is no inherent characteristic of any particular grain that would make it more likely to elicit an immune response.

## Myth #3: One can evaluate the 'quality' of a pet food by reading the ingredient list.

Remillard says, "Despite aggressive marketing campaigns by various manufacturers and self-appointed websites, the ingredient list does not impart any information regarding the quality, nutritional balance, or digestibility of the pet food product."

"My primary recommendation would be to look at nutrients rather than ingredients in foods," says Wortinger. "The body does not care if the meat is chicken, beef, or reindeer; what it cares about is the amino acids included in the food. The body does not care whether the fat is animal or plant-based, but whether all the essential fatty acids are present. Look at nutrients, not marketing," she says.

"The ingredient list was simply not designed, or is not regulated, as a measure of pet food quality. So the source of meat or carbohydrates in a pet food is not important to the nutritional profile in a complete and balanced product," she notes.

## Myth #4: Corn/grains are non-nutritive 'fillers.'

"I've heard concerns about them [grains] being 'filler,' which is nonsense," Larsen says. "They are added because they contribute energy and other essential nutrients, as well as very useful dietary components, such as fiber, which is an underappreciated nutrient." Depending on how grains are processed, they can be highly digestible. Some grains contribute dietary fiber to pet foods, which can play an important role in intestinal health.

Remillard suggests a balanced approach with clients, noting, "There are many valid reasons for recommending a diet change to a pet owner, but simply because a grain appears in the ingredient list is not one. The 'no grain' product claim is simply a marketing ploy catering to customer misperceptions and does not impart any particular nutritional advantage to the pet. Most 'no grain' pet foods still contain 40–60 percent starch but from a different source, such as potato, pea, or bean, and hence is nutritionally the same. So in the end, there is no nutritional difference."

Remillard noted that of the 900 U.S. dog owners in a recent Purina survey, nearly half said that choosing the right food for their dog was the most difficult part of ownership. According to this study, Remillard said, "52 percent said their dog's nutrition was more confusing than their own, and about 25 percent of them spend more than 10 minutes in the dog food aisle deciding between the different blends, brands, and flavors available.





# ULTRASOUND UPDATE

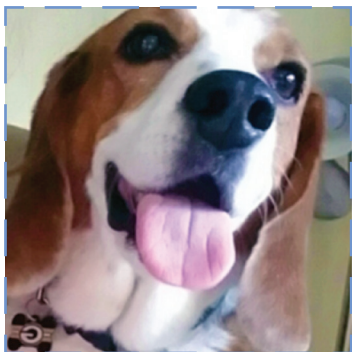


We have been working hard to become proficient

at using our new ultrasound machine! So far, in the span of a couple of short months, we have been able to use our ultrasound to find splenic tumors, inflammatory bowel disease, gall bladder disease, bladder tumors, abdominal lymphoma, and more. In the past, when an ultrasound examination was indicated, we've had to refer patients to Lakeshore Veterinary Specialists. Now we can do this for you at our hospital, with less expense and less hassle.

Proficiency using the ultrasound is a difficult skill to acquire. Human ultrasound technicians go to school for years to learn how to do a thorough exam. All three veterinarians at Best Friends have taken a basic course, and Dr. Horsch attended a more advanced course at the veterinary school in Madison in April. Currently, she is comfortable identifying pathology with most of the abdominal organs, and hopes to fine tune her skills with more challenging, smaller structures like adrenal glands and the pancreas. She will also be learning how to use the machine to help guide diagnostic sampling of abnormal tissues without the need for surgery. She is excited to be learning a new skill that will help diagnose disease at an earlier stage, thereby improving treatment outcomes.

We are considering offering wellness ultrasound examinations to our patients. This would be especially helpful in large breed, older dogs, as a cancer surveillance tool. Early detection of tumors of the spleen or liver will lead to improved treatment outcomes and quality of life. If this is something you would like to have done for your pet, please let us know.



## Case Study #1:

*Sparky, a 6 year old beagle belonging to our assistant, Michelle.*

Several months ago, Sparky began to feel sick, and he was drinking and urinating frequently. These are symptoms of a bladder and/or kidney infection. We wanted to get a urine sample

for culture, so we used ultrasound to help us collect a sterile sample. The ultrasound image showed a large mass adhered to the wall of Sparky's bladder. We collected some bladder cells via catheterization, confirmed our diagnosis, and began treatment as soon as possible. He is doing well with home medication and chemotherapy. Had we not found the mass on ultrasound, we probably would have spent precious time treating bladder infections without finding the true cause of his symptoms.



His prognosis with a later diagnosis would have been much worse.

## Case Study #2:

*Louie, a 15 year old cat.*

Louie, as many older cats do, began to lose weight. His haircoat was scruffy and unkempt from lack of grooming. He had achieved

remission from his diabetes, and had some kidney insufficiency, but something else was causing him to lose weight and feel poorly. While he was under anesthesia for a teeth cleaning, Dr. Horsch performed an abdominal ultrasound. All of his internal organs were normal except for some mild thickening of his small intestines. The intestinal thickening indicated inflammation, which can be multifactorial.

Dr. Boss added a cobalamin (Vitamin B12) supplement and a hypoallergenic diet to his regimen. For many cats with intestinal inflammation, hypoallergenic foods are much easier to digest. Approximately 10% of cats with thickened intestines actually have a food allergy, so it can help in multiple ways. Louie is now gaining weight and is grooming himself much better, which indicates that he is also feeling much better!

## No-Bowl Feeding Systems - *continued from back page*

Taking away the food bowl and replacing it with feeding toys is an excellent way to satisfy your cat's natural hunting drive. Instead of filling a bowl, you would divide a day's worth of food into multiple toys, usually 5 or 6 of them, and distribute them for your cat to find. These toys are batted around and dribble food out a little at a time. Once transitioned onto the system, your cat will hunt, find their meal, and then play with it to get the food reward. Satisfied with this healthy portion, your cat will groom and rest until hunger motivates the next hunt, just like in nature.

We like the SlimCat ball by PetSafe, as well as the new NoBowl Feeding System that uses mouse-shaped toys with stretchy "skin" to more closely resemble the real thing. You can also make your own feeding toys out of toilet paper cardboard tubes with the ends crimped mostly closed or small plastic containers with some holes cut into the sides.

If your cat tends to wake you up at night, hide a few of these throughout your house, in different spots each evening, for her to find while you are sleeping.

Scientists agree, cats need to hunt, not be served from a bowl. Feeding toys replace the bowl with the hunt, letting your cat stalk, trap and play with its food - the way nature intended.



# Feed The Need. Lose the Bowl: NO-BOWL FEEDING SYSTEMS

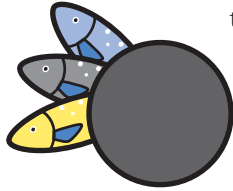
For cats, hunting is part of what brain scientists call “The Seeking Circuit.” In the seeking circuit, the brain releases dopamine, which heightens arousal and creates a feeling of anticipation. Each small meal, usually consisting of a single mouse, completes the cycle and leaves cats feeling satisfied and complete. Cats need to engage in the seeking circuit many times a day to be mentally and physically healthy.

Eating from a bowl denies cats this natural cycle, yet the need to hunt remains instinctual. Toys engage cats in the seeking circuit, putting them in a heightened state of arousal. However, the circuit is not completed without the food reward. This leaves them in a heightened state of arousal without the satisfaction of finishing the hunt.

In nature, cats hunt and engage this seeking circuit between 9-20 times a day, usually most actively around dawn and again at dusk. Now you know why your cat might wake you up to eat in the wee hours of the morning! His or her brain is set up to start seeking prey about this time. Cats spend an average of 6 hours a day seeking their food, which provides them with the majority of their daily exercise. When we remove the opportunity to hunt, we deny their natural instincts and disrupt their natural rhythms. This can lead to physical, behavioral and mental problems.

Veterinary behaviorists know that feeding has a dual purpose for cats. It is not only a way to satisfy their energy need, but it also represents the main opportunity to satisfy their primary behavioral need to act as predators. Not having the possibility to satisfy this need may be physically and psychologically detrimental to a cat – in other words, it’s stressful for a cat to not have this outlet.

*Continued previous page...*



## THE TOP 5 REASONS PEOPLE PURCHASE THE NOBOWL FEEDING SYSTEM:

1. They are looking for a way to engage their cat while they are not at home
2. Their cat “scarf and barfs” at least once a week
3. Their veterinarian recommended Environmental Enrichment for their cat
4. Their cat wakes them up early looking for food
5. They are looking for a way to feed in a portion-controlled way to maintain a healthy weight

PRRST-STD.  
U.S. POSTAGE PAID  
Gratton, WI  
Permit No. 25

